



These are a Few of My Favorite Things! (in AutoCAD)

KaDe King – U.S. CAD

AC6761 What are your favorite features in AutoCAD software? These are a few of my favorite things. Over the years of teaching AutoCAD software I've built an extensive list of my favorite features and tips. We'll explore features from the beginning of AutoCAD software up to AutoCAD 2015 software. This session is all about me sharing my love and passion for AutoCAD software with you!

Learning Objectives

At the end of this class, you will be able to:

- Learn how to use key components in the AutoCAD software interface to increase productivity
- Learn how to modify AutoCAD software files with increased efficiency
- Learn how to identify options for importing/linking from other programs
- Learn how to locate additional tools to improve the AutoCAD software experience

About the Speaker

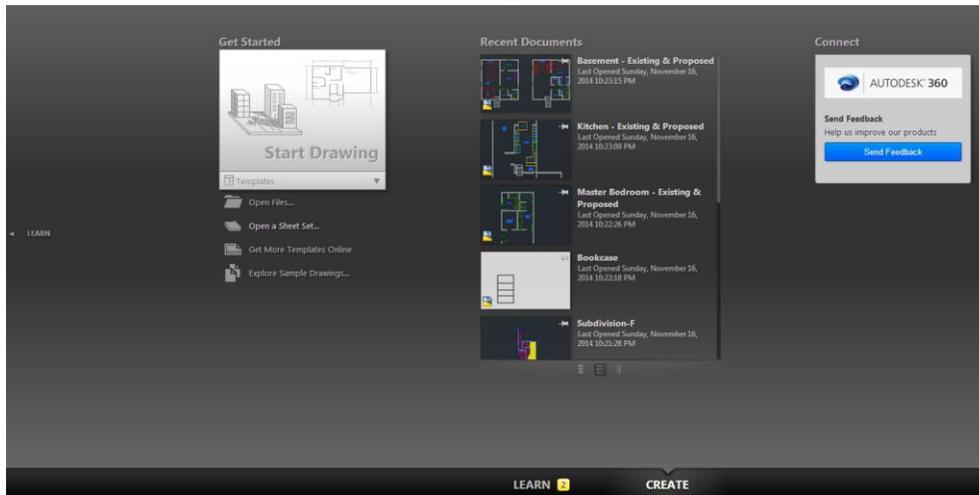
KaDe King is a technical specialist for U.S. CAD, and she provides training, network licensing services, and migration services. She has been using AutoCAD software since 1987 and has been a trainer since 1993. KaDe is an AutoCAD Certified Professional and an Autodesk Certified Instructor. She has twice been the recipient of the Autodesk Instructor Quality Award and has presented at Autodesk University for 9 years. Her experience is widely varied and includes real-world application of AutoCAD software in the architecture, engineering, and construction industry and in the mapping, civil, and manufacturing industries. She enjoys teaching, and she specializes in relating to the class participants and helping them to get the most out of the training course, whatever it may be.

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Learn How to Use Key Components in the AutoCAD Software Interface to Increase Productivity

The “New Tab” in AutoCAD 2015

What’s the best thing about the new “startup window” in AutoCAD 2015? It’s not a startup window!



With the “New Tab” I don’t feel the need to disable it immediately like I did with the old dialog box. Because it has a seamless and integrated feel to it, so it is easy to use and easy to ignore when you don’t need it!

The “New Tab” actually contains two panels:

- Create (the default panel)
- Learn (available by clicking “Learn” from the bottom of the window)

You get easy access to these great features on the “Create” panel:

- Recent Documents
- Open Files
- Access Autodesk 360
- Send Feedback
- Open Sheet Sets
- Start a New Drawing (from any template – even download templates from online resources!)
- Explore Sample Drawings (finding these is normally like walking through a corn maze)

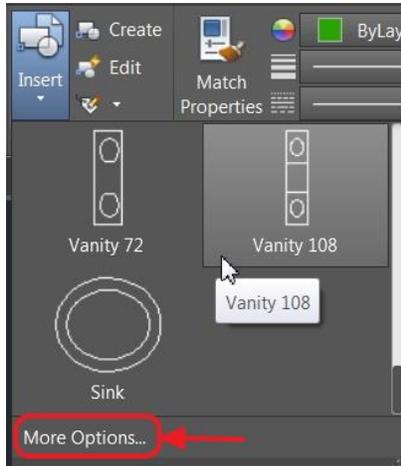
These educational features are available on the “Learn” panel:

- What’s New
- Getting Started & Feature Videos
- Tips & Tricks
- Online Resources for Learning

The new “Block Gallery” from the Insert tool on the Ribbon (2015)

The nicest part of this tool is the scrolling view of all the blocks that you have in your current drawing! If you can't find the block you need and want to “browse” to locate it, just click on “More Options” from the bottom of the fly-out and the Insert dialog box will open for you.

Additionally, if you click on one of the blocks, use the command line options to change the base point, scale, or rotation before you click the insertion point.



Cursor Badges (2015)

AutoCAD 2015 introduces a new way to be more aware of what is going on in AutoCAD. When using basic editing commands (Copy, Move, Rotate, Scale, and Erase) it shows what is called a “Cursor Badge” next to your crosshair to indicate the command you are in. You will also see cursor badges when doing things like trimming\extending, running Inquiry tools (Distance, Area, Angle, etc...), and when you are selecting objects with multiple selection methods (such as a window or crossing).

I find cursor badges to be useful in that it is easier to identify that you're in the command you actually wanted. Like in MOVE vs. COPY, because the cursor badges are different you can quickly identify that you're in the right command.

With the AutoCAD 2015 Service Pack 1 installed you can turn off cursor badges by typing in CURSORBADGE at the command line. It has two options.

- 1 – Turns off all cursor badges
- 2 – Turns on all cursor badges

By default CURSORBADGE is set to 2 and therefore all cursor badges are enabled.

You will need to install AutoCAD 2015 Service Pack 1 to access the CURSORBADGE command.

Model Space Viewports – Cool new features (2015)

AutoCAD's model space configurable viewports have always been useful, especially if you work with any of the AutoCAD verticals (Civil 3D, AutoCAD Architecture, etc...) or if you create 3D models. But with the new ability to dynamically size them, add new model viewports, and remove existing model viewports without having to type a command or go to a dialog box, they really become an integral part of your workflow.

How to use model space viewports:

- Make sure you are in model space (not a viewport in your layout)
- Click on the [-] symbol in the upper left corner of your drawing screen



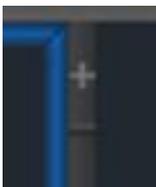
- Select "Viewport Configuration List" and pick an initial configuration (like "Two:Vertical")

When you have model space split into at least two viewports you can take advantage of some cool functionality.

- Use the double line symbol on the middle side of the viewport to change the size of each viewport



- Use the plus symbol on either the top or bottom inside corner of the viewport to add a new viewport (or hold the CTRL key down while using the double line symbol to drag)



- Easily remove a viewport by dragging the viewport all the way to the opposite edge

Learn How to Modify AutoCAD Software Files with Increased Efficiency

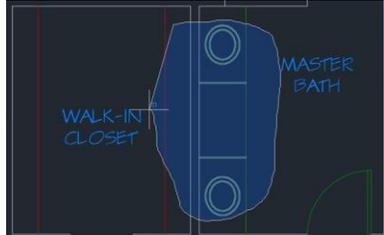
The Lasso selection tool (2015)

This is one of those tools that is just so easy to use that it feels like it's always been in AutoCAD!

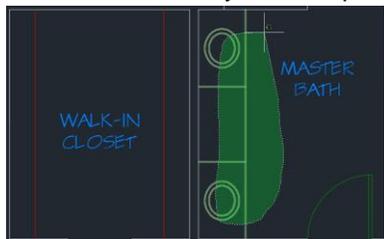
We've always had some really great selection tools (Crossing, Crossing Polygon, Window, Fence, etc...) but with the addition of the "Lasso" tools to the family it really improves efficiency during the selection process.

A lasso is simply the ability to create a freeform drag pattern around your objects. There are three different types of selection lassoes:

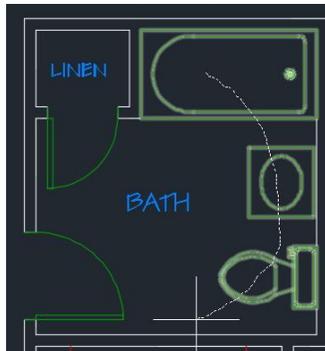
- Windows Lasso – Only selects the objects completely inside of your lasso
 - Move to the right of your start point



- Crossing Lasso – Selects everything touching or inside of your lasso
 - Move to the left of your start point



- Fence Lasso – Selects everything that touches only the actual lasso fence
 - Available by using the spacebar to alternate the lasso mode once the lasso is started



You can use any of the lasso types by simply pressing and dragging wherever AutoCAD allows you to select objects. Either when no command is running or when you are in an editing command and you are in the selection process.

Using the Select Similar tool (2011 and higher)

The “Select Similar” tool is one of the “stealth” commands. For those of you who’ve been using a vertical product like Civil 3D, AutoCAD MEP, or AutoCAD Architecture you were able to access this tool much earlier. For those of you on vanilla AutoCAD, the first version we had this was AutoCAD 2011.

I call this a stealth command because it’s not really obvious that this command exists – ***unless you are an aggressive right clicker!***

To use this command simply do the following:

- Select any object (or objects) in your drawing
- Right-click on your mouse
- Choose “Select Similar” from the right-click menu
- AutoCAD will select all matching objects (same block name, same layer, etc...)



Working with multiple drawings (Match Properties\Drag & Drop)

Most everyone at one time or another has multiple files open to copy and paste content into each other. But did you know that if you open the files side-by-side that you can directly drag content from one file to the other (select objects, then press and drag from the object – not the grips)? Or that you can use MATCHPROP from one file to the other?

No tricks here, just open both files, go to the View ribbon tab and select your choice of TILE options. One cool trick to know is that you can also tile your drawings by typing SYSWINDOWS. Now because this is a long command, if you have AutoCAD 2011 or lower, I would suggest creating a command alias for it (express tools). If you have 2012 or higher you can simply type SYSW and that will be the only option.

Another tip – if you have multiple monitors you can put drawings on both screens by opening your AutoCAD twice.

Tip: Don't customize your tool palette or screen layout while you have two AutoCAD sessions open, you'll lose customization if you close the wrong one first.

UNDO command – the whole enchilada

Sometimes you just need more power than typing U at the command line or picking the Undo command from the Quick Access toolbar.

For these occasions I suggest you type UNDO at the command line. This will give you access to significantly more functionality for undoing elements.

UNDO:

- Type how many UNDO's you want to perform
- Change CONTROL settings that set how undo behaves with multiple zooms, pans, and layer changes
- Group actions with BEGIN and END
- MARK your place in the drawing so that you can use the BACK option to undo back to your marked point
- UNDO ALL – This will take you back to when you opened the file (even if you've already saved the file!)

Using the Rotate Reference option

This is one of my favorite tools in AutoCAD! When I first started using AutoCAD the Rotate command was a constant source of frustration for me because I had to take the time to check the current rotation angle of the object, then calculate the difference of its current angle with the new angle. Invariably I constantly had blocks or elements on the drawing that should have been rotated at 90 degree angles that the angles were slightly off.

Then one day I got a hold of an AutoCAD 12 (not 2012) training manual. In that book it showed me how to use the REFERENCE option in the ROTATE command and I've never looked back.

Using the REFERENCE option during the ROTATE command:

- After you have selected your BASEPOINT for your rotation type R (for reference) or select REFERENCE from the command line
- Pick two points on the object that will define the current angle of the object
- Type or select the angle you want it rotated too

Tip: You can also use the REFERENCE option during the SCALE command to set a scale factor based on existing and new measurements!

MEASUREGEOM – Distance Multiple

The “Distance” option in the MEASUREGEOM command has an awesome function called “Multiple Points”.

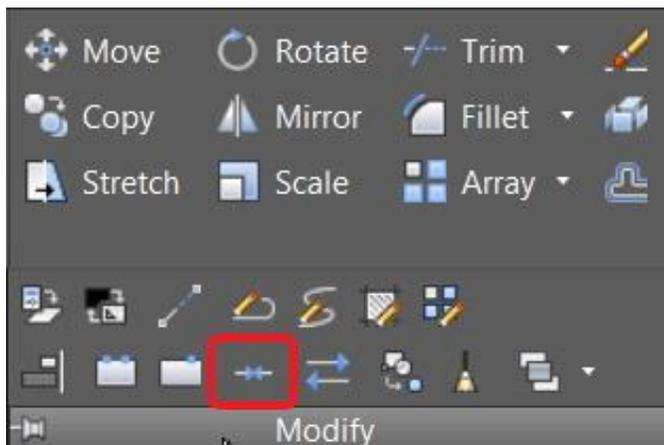
This option lets you keep selecting points in order to get a total length. This includes an option to include an arc in the length total. Pretty awesome!



JOIN

I’m sure at one point or another you’ve all had to use the PEDIT command (polyline edit) to turn lines and arcs into polylines. This is a good command, but can be cumbersome to manipulate. It has one redeeming value and that is its ability to set a “Fuzz Factor” in order to create polylines out of objects that aren’t perfectly connected.

A quicker option for everyday use is the JOIN command. It can quickly turn elements into polylines. It also has the ability to combine lines or arcs that are collinear.



Learn How to Identify Options for Importing\Linking from other programs

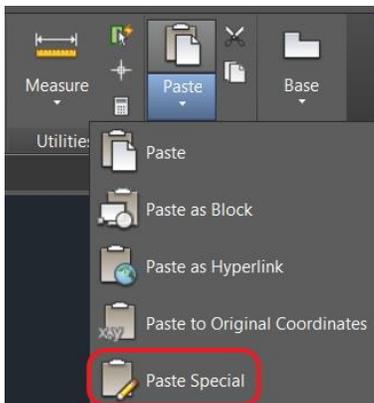
Linking Excel Tables to AutoCAD

Instead of using OLE objects that are created by a general copy and paste process, use the PASTE SPECIAL command to create truly linked Excel tables and cells!

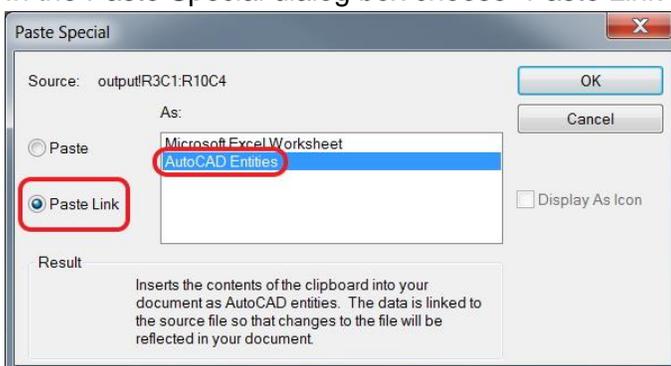
One of the problems with OLE (Object Linking and Embedding) which is Microsoft technology is that it can lose its link easily. Another major issue is making the table look good in AutoCAD (colors, text heights, shading, fonts, etc...).

Back in AutoCAD 2008, Autodesk created the Data Link tool which allows AutoCAD users to create a link between AutoCAD and Excel to properly display their Excel spreadsheets in AutoCAD. You don't have to be extremely familiar with the Data Link tool to make this work though. Simply use the following process.

- Open your spreadsheet in Excel
- Highlight the cell(s) you want to link to and press CTRL+C (copy to the clipboard)
- Open your drawing in AutoCAD and go to the sheet you want the spreadsheet placed on (generally in your layout tab)
- Go to the HOME tab on the ribbon and select the PASTE fly-out, then choose PASTE SPECIAL from the bottom of the menu

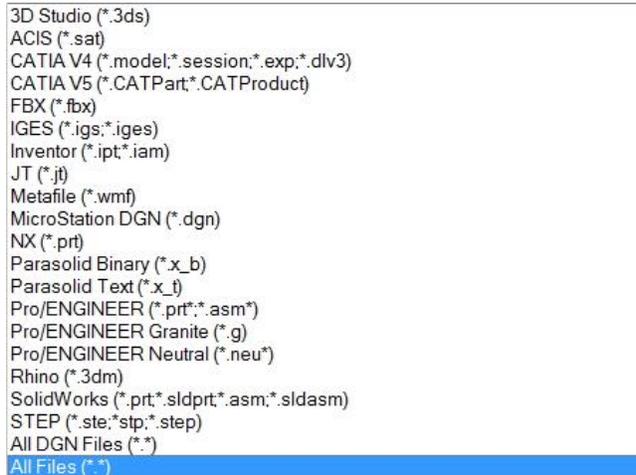


- In the Paste Special dialog box choose “Paste Link” and “AutoCAD Entities” and pick OK



Creating 2D layouts from 3D models (from several different programs!)

AutoCAD has the ability to import 3D models from a large variety of modeling programs and then generate 2D drawing views from the 3D models, very cool!



Non-Inventor file process:

- Create a new blank AutoCAD file
- While in the model space, type IMPORT or go to the INSERT ribbon tab to locate IMPORT
- Set the appropriate file type and browse for your file, then pick OK
- Wait for the program to import your file and click on the link for the computer to insert the 3D model as a block (instead of exploding it use the block edit command to make changes if needed)
- Go to your Layout tab (make sure the sheet size is what you want)
- Click on the LAYOUT tab from the Ribbon and select BASE, then FROM MODEL SPACE

Inventor file process:

- Create a new blank AutoCAD file
- Go to your Layout tab (make sure the sheet size is what you want)
- Click on the LAYOUT tab from the Ribbon and select BASE, then FROM INVENTOR

Creating Views:

- Once the BASE command is started (either method above) you will be able to pick the center of the new view you are creating, once it is centered press enter
- With the new base view established it will now give you the option to drag the cursor and pick points in any direction to generate your necessary views (press enter when you are done)

Other Tools:

- Section View generator
- Detail View generator
- Edit View tool to change the display of the view

Tip: There is an AUTO UPDATE function on the LAYOUT ribbon tab that allows the model to update! Be aware of the following:

- Base Views created from model space (imported) will update when the model updates as long as AUTO UPDATE is enabled
- Base Views created from Inventor will update when the file is next opened (save, close, and reopen the file)

Overall, the BASE VIEW set of tools are excellent and provide a quick and simple way of generating 2D views from a 3D model, whether the 3D model was built directly in AutoCAD, imported into AutoCAD, or linked from an Inventor model.

Learn How to Locate Additional Tools to Improve the AutoCAD Software Experience

Using the Autodesk Exchange “App” Store

Just like your smart phone, Autodesk has an App store to download tools that will enhance your Autodesk products! There are many excellent tools, some free, some relatively cheap, and some pretty pricey ones as well ☺ Most 3rd party add-on products to Autodesk products are now purchasable through the Autodesk App store

To get to the appropriate App store from your AutoCAD program click the icon as shown below from the upper right corner of the screen.



Once in the Autodesk App store use the search engine to locate what you need. Read the instructions for installing the app carefully as they may vary based on who created it.

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